

17. (Previously Presented) A microlithographic reduction projection catadioptric having an image side and an object side and curved mirrors and being devoid of planar folding mirrors, comprising an aperture plane on the image side of a most imageward curved mirror, wherein the most imageward mirror is convex.
18. (Previously Presented) The objective according to claim 17, further comprising a straight axis of symmetry of all curvatures of all optical elements.
19. (Currently Amended) The ~~microlithographic reduction projection catadioptric objective~~ optical system according to claim 2 comprising an intermediate image, with at least two mirrors being arranged upstream in the path of the beam.
20. (Original) The objective according to claim 6, wherein the image side numerical aperture is $NA=0.7$ or greater, at an image field of 5 mm x 20 mm to 8 mm x 30 mm.
21. (Previously Presented) The objective according to claim 6, wherein all lenses built in as full disks do not obstruct a beam path.
22. (Original) The objective according to claim 3, comprising at least one spherical mirror.
23. (Original) The objective according to claim 18, wherein the curved mirrors have optical surfaces that comprise sections or full surfaces of revolution.
24. (Original) The objective according to claim 3, comprising, in sequence from an object plane end, a first and a third curved mirror that are concave and a fourth mirror that is convex.

25. (Previously Presented) The objective according to claim 41, comprising an aperture plane located within a catadioptric chromatic aberration generating group comprising at least one negative lens and a concave mirror.
26. (Previously Presented) The objective according to claim 6, comprising a field lens group next to an object plane and being object side telecentric.
27. (Original) The objective according to claim 4, wherein the optical elements comprise lenses that are all located within a cylindrical envelope of minimal radius, and curved mirrors, all but one of the curved mirrors being located within a same envelope.
28. (Previously Presented) Projection exposure apparatus comprising a projection objective according to claim 6, an excimer light source, an illumination system, a reticle handling, positioning and scanning system, and a wafer handling, positioning and scanning system.
29. (Currently Amended) The ~~microlithographic reduction projection catadioptric objective~~ optical system according to claim 2, an excimer light source, an illumination system, a reticle handling, positioning and scanning system, and a wafer handling, positioning and scanning system.
30. (Original) Projection exposure apparatus comprising a projection objective according to claim 4, an excimer light source, an illumination system, a reticle handling, positioning and scanning system, and a wafer handling, positioning and scanning system.
31. (Original) Projection exposure apparatus comprising a projection objective according to claim 6, an excimer light source, an illumination system, a reticle handling, positioning and scanning system, and a wafer handling, positioning and scanning system.

